

RD

Site:	Saint Joseph Care
ID #	KS0001583897
Break:	1.5
Other:	7-12-99

Abbreviated Preliminary Assessment

for the

**Saint Joseph Care Center
Kansas City, Kansas**

Superfund Site ID# XJ

CERCLIS # KS0001583897

January 12, 1999

*DeAndre' Singletary
Superfund Division
U.S. Environmental Protection Agency
Region 7
Kansas City, Kansas*

40222513



SUPERFUND RECORDS

Introduction

The St. Joseph Care Center Site was a response action undertaken by EPA in conjunction with the Oskaloosa Mercury site. The St. Joseph Care Facility was the source of mercury released/spilled in the Oskaloosa High School which was reported to EPA on October 22, 1996 and eventually lead to a fund-lead response action at the High School approved on November 7, 1996. EPA's investigation of the Oskaloosa High School mercury spill lead to a secondary investigation of the St. Joseph Care Center when it was reported that the mercury released in Oskaloosa was reportedly vandalized from the St. Joseph Care Facility. The St. Joseph Care Facility investigation prompted a PRP-lead cleanup action at this facility and this action resulted in the completion of a Superfund *Potential Hazardous Waste Site Identification* form, on October 22, 1996. The CERCLIS site discovery date is October 22, 1996.

Because a *Potential Hazardous Waste Site Identification* form was completed, the site was entered into CERCLIS as a potential hazardous waste site. CERCLIS entry triggers the requirement to complete a *Preliminary Assessment* under the provisions of the *National Contingency Plan* (NCP).¹

Because the Agency has made a determination that no further removal or remedial action is required or planned, the site qualifies for an "abbreviated" PA in accordance with Section 2.2.4 of the *EPA Guidance for Performing Preliminary Assessments Under CERCLA*² and Section 300.420 of the NCP as reviewed by Region VII Office of Regional Counsel.³

This abbreviated PA has been prepared to satisfy the administrative requirements of the NCP with regard to PA documentation.

Site Description, Operational History, and Waste Characteristics

Location

The site is located at 759 Vermont, Kansas City, Kansas, in a residential area of Kansas City,

¹ 40 CFR, Subpart E, 300.420

² U.S. EPA, Office of Emergency and Remedial Response, *EPA Guidance for Performing Preliminary Assessments Under CERCLA*, Washington, D.C., September 1991.

³ *Legal Requirements for CERCLA Preliminary Assessments*, Memo from Dave Cozad, Region VII Office of Regional Counsel to Paul Doherty, Region VII Superfund Division, USEPA Region VII, Kansas City, Kansas, November 13, 1997.

Kansas. The geographic coordinates for the site are latitude 39°, 5', 40" and longitude -94°, 37', 45". Figure 1 is a site location map.

Site Description

The St. Joseph Care Center Site was a response action undertaken by EPA in conjunction with the Oskaloosa Mercury site. The St. Joseph Care Center was the source of mercury released/spilled in the Oskaloosa High School which was reported to EPA on October 22, 1996 and eventually lead to a fund-lead response action at the High School approved on November 7, 1996. EPA's investigation of the Oskaloosa High School mercury spill lead to a secondary investigation of the St. Joseph Care Center when it was reported that the mercury released in Oskaloosa was reportedly vandalized from the St. Joseph Care Center.

An incident involving mercury at a local high school was reported to EPA Region VII on Tuesday, October 22, 1996, by Kevin Klenken of the Jefferson County Emergency Management team at approximately 4:30 p.m. At the time of the initial reporting, it was believed that an Oskaloosa High School student had broken a sphygmomanometer at his place of employment (St. Joseph Care Center) during the early morning hours on October 22, had collected spilled mercury from the device, and had taken the mercury to the high school later that day. The amount of mercury taken from the St. Joseph Care Center was initially unknown; however, school officials had identified several areas throughout the high school where visible mercury droplets were laying on floors, desks, books, etc., including classrooms, the school library, a bathroom, and the women's locker room. The school district elected to evacuate the school sometime during the day on October 22, and canceled classes the following day (Wednesday, October 23).⁴

Operational History and Waste Characteristics

EPA Region VII responded to the scene of Oskaloosa on October 23. Mercury droplets were observed in areas previously described. Approximately 16 ounces (by weight) of mercury were collected on this date from floors, desks, lockers, chalkboard trays, bathroom drains, and urinals, primarily through the use of hand suction pumps. Real-time measurements were taken throughout the high school with a mercury vapor analyzer, before and after mercury collection. The mercury vapor analyzer was being utilized strictly as a qualitative health concern at the high school. Measurements taken after mercury collection continued to the women's locker room, and the main school hallway. The measurements were corroborated by visual observation of mercury in these areas that was non-retrievable by means available at the time. Because of this, and based upon consultations from the Kansas Department of Health's Office of Epidemiologic Service, the

⁴ Personal Communication with Dave Williams, On-Scene Coordinator, USEPA, January 13, 1999.

Oskaloosa School District superintendent elected to cancel classes for the remainder of the week.

EPA Region VII also responded to the scene of St. Joseph Care Center on October 23, 1996. Air monitoring was performed using a mercury vapor analyzer (MVA). MVA screening was conducted in room #415, the site of the original release), the hallway adjacent to room #415, and throughout the main and west hallways on the fourth floor. MVA screening was also performed on the third and fifth floors. The MVA results for these activities indicated increasingly higher mercury concentrations nearer the room where the release occurred. The care center officials initially stated that only one sphygmomanometer had been broken; however, it was later confirmed that seven of the wall-mounted instruments had been drained of their mercury. Furthermore, the care facility administration ascertained that each sphygmomanometer contained approximately 2 teaspoons of mercury, and a total of 14 teaspoons had been released. Pursuant to this discovery, the care center had evacuated all patients and employees from the fourth floor, except for those on the east wing.

On or about October 24, 1996 EPA was informed that the St. Joseph Care Center would assume responsibility for completing the necessary cleanup actions. The care center contracted HAZMAT Response, Inc., to perform the mercury cleanup operations in the seven rooms where releases had occurred, and Occutec Inc. to perform confirmation air sampling at the facility. Because the removal activities would be performed by the contractors in conjunction with the Kansas Department of Health and Environment, EPA terminated response actions at the site. The mercury cleanup action levels specified by Kansas Department of Health and Environment's Tim Monroe were reportedly attained in each of the mercury release locations.⁵

Summary and Conclusions

Based on EPA's on-site observations and the response actions taken by the PRP, it has been determined that no significant releases of hazardous substances to ground water, surface water, or soil occurred at the site. The release of mercury vapor to the air has been adequately remediated by PRP response actions. All source materials have been removed from the site and EPA believes that no trace levels of mercury residues remain from prior releases and the situation does not present a significant threat to on-site workers, the surrounding population, or the environment. All residues from spilled mercury have been removed and destroyed. No hazardous substances remain on site.

Because no hazardous waste, or threat of hazardous waste, remain on site, EPA has determined that the site does not present an unacceptable risk to the public health or the environment and no further removal or remedial action is required or planned. EPA has further determined that the site qualifies for an "abbreviated" PA in accordance with Section 2.2.4 of the *EPA Guidance for*

⁵ Trip Report: On-Scene Monitoring - Saint Joseph Care center, Kansas City, Kansas, Ecology & Environment, Inc., START Contract, Overland Park, Kansas, December 30, 1996.

*Performing Preliminary Assessments Under CERCLA*⁶ and Section 300.420 of the NCP as reviewed by Region VII Office of Regional Counsel⁷.

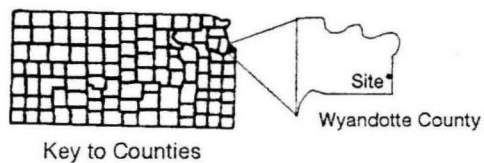
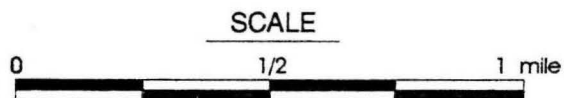
Since no further action is warranted under CERCLA, it is recommended that the site be archived from the CERCLIS database.

Attachments

Figure 1. Site Location Map
Potential Hazardous Waste Site Identification Form
Potential Hazardous Waste Site Preliminary Assessment Form
CERCLIS List #09: Site Comprehensive Listing Page
Oskaloosa Action Memo
START Trip Report 12/30/96

⁶ U.S. EPA, Office of Emergency and Remedial Response, *EPA Guidance for Performing Preliminary Assessments Under CERCLA*, Washington, D.C., September 1991.

⁷ *Legal Requirements for CERCLA Preliminary Assessments*, Memo from Dave Cozad, Region VII Office of Regional Counsel to Paul Doherty, Region VII Superfund Division, USEPA Region VII, Kansas City, Kansas, November 13, 1997.



Saint Joseph Care Center
Kansas City, Kansas

TDD: S07-9610-012
 PAN: 0313JRZXX
 Prepared by STM A.F. Mazzeo
 December 1996

Source: USGS 7.5 minute Topographic
 Maps: Kansas City, MO-KS, 1964.
 Shawnee, KS, 1964

Figure 1: SITE LOCATION MAP



POTENTIAL HAZARDOUS WASTE SITE
SITE IDENTIFICATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

KS

XS

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

Oskaloosa Mercury Care Center

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

St. Joseph 759 Vermont

03 CITY

Oskaloosa Kansas City

04 STATE

KS

05 ZIP CODE

759

06 COUNTY

Wyandotte

07 COUNTY CODE

08 CONG DIST

09 DIRECTIONS TO SITE (Starting from nearest public road)

Go to High School - release occurred in high school.

Site: St Joseph Care Center

ID #: KS0001583897

Release: 1.5

Date: 10-24-96

III. RESPONSIBLE PARTIES

01 OWNER (if known)

Chauncey Slifer

02 STREET (Business, residential, mailing)

UNK

03 CITY

Oskaloosa

04 STATE

KS

05 ZIP CODE

06 TELEPHONE NUMBER

()

07 OPERATOR (if known and different from owner)

08 STREET (Business, residential, mailing)

09 CITY

10 STATE

11 ZIP CODE

12 TELEPHONE NUMBER

()

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE

☐ B. FEDERAL

(Agency name)

☐ C. STATE

☐ D. COUNTY

☐ E. MUNICIPAL

☐ F. OTHER:

(Specify)

☐ G. UNKNOWN

IV. HOW IDENTIFIED

01 DATE IDENTIFIED

10 22 96
MONTH DAY YEAR

02 IDENTIFIED BY (Check all that apply)

☐ A. CITIZEN COMPLAINT

☐ B. INDUSTRY

☒ C. STATE/LOCAL GOVERNMENT

☐ D. AERIAL RECONNAISSANCE

☐ E. RCRA INSPECTION

☐ F. SURFACE IMPOUNDMENT ASSESSMENT

☐ G. OTHER EPA IDENTIFICATION

☐ H. OTHER

(Specify)

V. SITE CHARACTERIZATION

01 TYPE OF SITE (Check all that apply)

☐ A. STORAGE

☐ B. TREATMENT

☐ C. DISPOSAL

☐ D. UNAUTHORIZED DUMPING

☒ E. OTHER Health care facility
(Specify)

02 SUMMARY OF KNOWN PROBLEMS (Provide narrative description)

Sphygmomanometer(s) have been tampered with; mercury exists in the devices.

03 SUMMARY OF ALLEGED OR POTENTIAL PROBLEMS (Provide narrative description)

Mercury may have been released into one or more rooms or hallways at the facility.

VI. INFORMATION AVAILABLE FROM

01 CONTACT

David Williams

02 OF (Agency/Organization)

EPA

03 TELEPHONE NUMBER

()

04 PREPARED BY

Name

05 AGENCY

EPA

06 ORGANIZATION

Superfund

07 TELEPHONE NUMBER

1 17625

08 DATE

10 24 96
MONTH DAY YEAR

EPA Potential Hazardous Waste Site Preliminary Assessment Form Page 1 of 2		Identification	
		State: KS	CERCLIS #: KS0001583897
		CERCLIS Discovery Date: July 16, 1998	
1. General Site Information			
Name: St. Joseph Care Center		Street Address: 759 Vermont Street	
City: Kansas City			
State: KS	Zip Code: 66101	County: Wyandotte	County Code:
Congressional District: 03			
Latitude: 39° 5' 40" Longitude: -94° 37' 45"		Approximate Area of Site:	
		Status of Site:	
		<input type="checkbox"/> Acre <input checked="" type="checkbox"/> Inactive <input type="checkbox"/> Not Specified <input type="checkbox"/> NA (non site)	
		<input type="checkbox"/> Active <input type="checkbox"/> NA Square Feet	
2. Owner/Operator Information			
Owner: Unknown		Operator: Mike Bower	
Street Address:		Street Address: 759 Vermont Street	
City: Shawnee		City: Kansas City	
State: KS	Zip Code:	Telephone:	State: KS
			Zip Code: 66101
Type of Ownership:		How Initially Identified:	
<input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> Federal Agency Name: <input type="checkbox"/> Municipal <input type="checkbox"/> State <input checked="" type="checkbox"/> Not Specified <input type="checkbox"/> Indian <input type="checkbox"/> Other:		<input type="checkbox"/> Citizen Complaint <input type="checkbox"/> PA Petition <input checked="" type="checkbox"/> State/Local Program <input type="checkbox"/> RCRA/CERCLA Notification <input type="checkbox"/> Federal Program <input type="checkbox"/> Incidental <input type="checkbox"/> Not Specified <input type="checkbox"/> Other:	
3. Site Evaluator Information			
Name of Evaluator: DeAndre' Singletary		Name of Organization: USEPA Superfund Division	
Date: 12/21/98			
Street Address: 726 Minnesota Ave		City: Kansas City	
State: KS			
Name of EPA or State Agency Contact: Betty Berry		Street Address: 726 Minnesota	
City: Kansas City		State: KS	
Telephone: (913) 551-7818			
4. Site Disposition (for EPA use only)			
Emergency Response/Removal Assessment Recommendation:		CERCLIS Recommendation:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No - Removal Action Completed July 1998 - No further action required Date: July 1998		<input type="checkbox"/> Higher Priority SI <input type="checkbox"/> Lower Priority SI <input checked="" type="checkbox"/> NFRAP <input type="checkbox"/> RCRA <input type="checkbox"/> Other: Date: January 1998	
		Signature: <i>DeAndre' Singletary</i>	
		Name (typed): DeAndre' Singletary	
		Position: On-Scene Coordinator	
5. General Site Characteristics			
Predominant Land Uses Within 1 Mile of Site (check all that apply):		Site Setting:	
<input type="checkbox"/> Industrial <input type="checkbox"/> Agriculture <input type="checkbox"/> DOI <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Mining <input type="checkbox"/> Other Federal Facility <input checked="" type="checkbox"/> Residential <input type="checkbox"/> DOD <input type="checkbox"/> Forest/Fields <input type="checkbox"/> DOE <input type="checkbox"/> Other:		<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Rural	
		Years of Operation:	
		<input checked="" type="checkbox"/> Unknown	

EPA**Potential Hazardous Waste Site
Preliminary Assessment Form**

Page 2 of 2

CERCLIS Number: KS0001583897

5. General Site Characteristics (Continued)

Type of Site Operations (check all that apply):

☐ **Manufacturing** (must check subcategory)

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Lumber and Wood Products | <input type="checkbox"/> Inorganic Chemical | <input type="checkbox"/> Plastic and/or Rubber Products | <input type="checkbox"/> Paints, Varnishes |
| <input type="checkbox"/> Industrial Organic Chemicals | <input type="checkbox"/> Agricultural Chemicals (e.g., adhesives, explosives, ink) | <input type="checkbox"/> Primary Metals | |
| <input type="checkbox"/> Metal Coating, Plating, Engraving | <input type="checkbox"/> Metal Forging, Stamping | <input type="checkbox"/> Fabricated Structural Metal Products | |
| <input type="checkbox"/> Electronic Equipment | <input type="checkbox"/> Other Manufacturing | | |

☐ **Mining**

- | | | | | | |
|--|---|---|--|---------------------------------|------------------------------------|
| <input type="checkbox"/> Metals | <input type="checkbox"/> Coal | <input type="checkbox"/> Oil and Gas | <input type="checkbox"/> Non-metallic Minerals | <input type="checkbox"/> Retail | <input type="checkbox"/> Recycling |
| <input type="checkbox"/> Junk/Salvage Yard | <input type="checkbox"/> Municipal Landfill | <input type="checkbox"/> Other Landfill | <input type="checkbox"/> DOD | <input type="checkbox"/> DOE | |
| <input type="checkbox"/> DOI | <input type="checkbox"/> Other Federal Facility | | | | |

☐ **RCRA**

- | | | | |
|--|---|---|-------------------------------------|
| <input type="checkbox"/> Treatment, Storage, or Disposal | <input type="checkbox"/> Large Quantity Generator | <input type="checkbox"/> Small Quantity Generator | <input type="checkbox"/> Subtitle D |
| <input type="checkbox"/> Municipal | <input type="checkbox"/> Industrial | | |
| <input type="checkbox"/> "Converter" | <input type="checkbox"/> "Protective Filer" | <input type="checkbox"/> "Non- or Late Filer" | |

☒ **Not Specified** ☐ Other :

Waste Generated:

- ☒
- Onsite
-
- ☐
- Offsite
-
- ☐
- Onsite and Offsite

Waste Deposition
Authorized By:

- ☐
- Present Owner
-
- ☐
- Former Owner
-
- ☐
- Present & Former Owner
-
- ☒
- Unauthorized
-
-
- ☐
- Unknown

Waste Accessible to the
Public:

- ☐
- YES
-
- ☒
- NO

Distance to Nearest
Dwelling, School, or
Workplace:NA Feet**6. Waste Characteristics Information**

Source Type: (check all that apply)

- | | | |
|---|-------|-------|
| <input type="checkbox"/> Landfill | _____ | _____ |
| <input type="checkbox"/> Surface Impoundment | _____ | _____ |
| <input type="checkbox"/> Drums | _____ | _____ |
| <input type="checkbox"/> Tanks and Non-Drum Containers | _____ | _____ |
| <input type="checkbox"/> Chemical Waste Pile | _____ | _____ |
| <input type="checkbox"/> Scrap Metal or Junk Pile | _____ | _____ |
| <input type="checkbox"/> Tailings Pile | _____ | _____ |
| <input type="checkbox"/> Trash Pile (open dump) | _____ | _____ |
| <input type="checkbox"/> Land Treatment | _____ | _____ |
| <input type="checkbox"/> Contaminated Ground Water Plume
(Unidentified Source) | _____ | _____ |
| <input type="checkbox"/> Contaminated Surface Water/Sediment
(Unidentified Source) | _____ | _____ |
| <input type="checkbox"/> Contaminated Soil | _____ | _____ |

☒ Other: miscellaneous small containers SphygmomanometerSource Waste Quantity: Tier*:
(Include units)

General Types of Waste (check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Metals | <input type="checkbox"/> Pesticides/Herbicides |
| <input type="checkbox"/> Organics | <input type="checkbox"/> Acids/Bases |
| <input type="checkbox"/> Inorganics | <input type="checkbox"/> Oily Waste |
| <input type="checkbox"/> Solvents | <input type="checkbox"/> Municipal Waste |
| <input type="checkbox"/> Paints/Pigments | <input type="checkbox"/> Mining Waste |
| <input type="checkbox"/> Explosives | <input type="checkbox"/> Laboratory Waste |
| <input type="checkbox"/> Radioactive Waste | <input type="checkbox"/> Other <u>non-hazardous</u> |
| <input type="checkbox"/> Construction/Demolition | |

Physical State of Waste as Deposited
(check all that apply):

- ☒
- Solid
-
- ☐
- Sludge
-
- ☐
- Powder
-
- ☒
- Liquid
-
- ☐
- Gas

Note: All sources have been removed from the facility.

* C = Constituent, W = Wastestream, V = Volume, A = Area

Note: all wastes removed

RUN DATE: 01/20/1999
WASTELAN DATABASE DATE: 01/20/99
WASTELAN DATABASE TIME: 15:06:55
VERSION: 1.00

**** PRODUCTION VERSION ****
U.S. EPA SUPERFUND PROGRAM
WASTELAN
LIST-09 (Internal): SITE COMPREHENSIVE LISTING
REGION: 07

Page 1 of 1
Program Area: Integrated
Sort: EPA ID

EPA ID SITE ID	SITE NAME STREET CITY COUNTY	STATE COUNTY	ZIP CODE	LATITUDE LONGITUDE SOURCE	SMSA HYDRO UNIT	OU	ACTION CODE, NAME	ACTUAL START DATE	ACTUAL COMPLETE DATE	CURRENT ACTION LEAD
KS0001583897 0703062	ST JOSEPH CARE CENTER 759 VERMONT KANSAS CITY WYANDOTTE	KS 209	66101	39/07/30/0 094/36/30/0 Geograph	3760 10240011		CONGRESSIONAL DISTRICT: 03 OWNERSHIP: Private NPL STATUS: N FEDERAL FACILITY: N			
Site Aliases:										
Site Description: MERCURY REMOVED FROM 7 WALL-MOUNTED SPHYGONOMANOMETERS; SOME SPILLED INTO PATIENTS ROOMS.MERCURY REMOVED FROM 7 WALL-MOUNTED SPHYGONOMANOMETERS; SOME SPILLED INTO PATIENTS ROOMS.										
					00 DS	DISCVRY	001		10/22/1996	EPA Fund
					00 BB	PRP RV	001	10/22/1996	10/31/1996	PRP Rsp Fed

ACTION MEMORANDUM

SUBJECT: Emergency Response Action at Oskaloosa Mercury Site, Oskaloosa,
Jefferson County, Kansas

FROM: David P. Williams, On-Scene Coordinator
EFLR

THRU: Michael J. Sanderson, Director
SUPR

TO: Dennis Grams, P.E.
Regional Administrator

CERCLIS ID#:	KSD0001589324
Site ID#:	XH
Category of Removal:	Emergency
Nationally Significant/ Precedent-Setting:	Yes (OSWER Directive 9360.3-12-- "Response Actions at Sites with Contamination Inside Buildings")

I. PURPOSE

The purpose of this memorandum is to document the rationale for initiating an emergency removal action (response) at the Oskaloosa Mercury Site, Park and Liberty, Jefferson County, Oskaloosa, Kansas; to describe actions performed thus far as part of the response; to describe future actions which may be required as part of this response; and to request funds for this response.

In accordance with OSWER Directive 9360.3-12, the Environmental Protection Agency's (EPA's) On-Scene Coordinator is generally required to obtain concurrence from EPA Headquarters to initiate a response inside a building. The Emergency Response and Removal Branch Chief coordinated Region VII's response action with the Office of Emergency and Remedial Response, Region V and VII Regional Response Center at EPA Headquarters. Concurrence was received to proceed with the response due to the urgency of the situation.

REVISED 11/4/96

SUPR:EFLR:WILLIAMS:DLR:10/29/96:7596:G:\USER\SHARE\EFLR\MEMO

EFLR	EFLR	EFLR	CNSL	SDDD	SUPR	RGAD	SDDD
WILLIAMS	BUCHHOLZ	MOTELY	KAHN	KATHER	SANDERSON	GRAMS	STAFFORD
CONCURRENCES REMAIN VALID.....							

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Site Evaluation

An incident involving mercury at a local high school was reported to EPA Region VII at approximately 4:30 p.m. on Tuesday, October 22, 1996. The incident was reported by Kevin Klenklen of the Jefferson County Emergency Management team. At the time of the initial reporting, it was believed that an Oskaloosa High School student had broken a sphygmomanometer at his place of employment (a nursing home facility in Kansas City, Kansas) during the early morning hours on October 22, had collected spilled mercury from the device, and had taken the mercury to the high school later that day. The amount of mercury taken from the nursing home facility was initially unknown; however, school officials had identified several areas throughout the high school where visible mercury droplets were laying on floors, desks, books, etc., including classrooms, the school library, a bathroom, and the women's locker room. The school district elected to evacuate the school sometime during the day on October 22, and canceled classes the following day (Wednesday, October 23).

EPA Region VII responded to the scene (Oskaloosa High School) on October 23. Mercury droplets were observed in areas previously described. Approximately 16 ounces (by weight) of mercury were collected on this date from floors, desks, lockers, chalkboard trays, bathroom drains, and urinals, primarily through the use of hand suction pumps. Real-time measurements were taken throughout the high school with a mercury vapor analyzer, before and after mercury collection. The mercury vapor analyzer was being utilized strictly as a qualitative indicator of mercury, as its accuracy was unknown in certain concentration ranges felt to be of health concern at the high school. Measurements taken after mercury collection continued to indicate significant mercury vapors in the main hall men's bathroom, two classrooms, the library, the women's locker room, and the main school hallway. The measurements were corroborated by visual observation of mercury in these areas that was non-retrievable by means available at the time. Because of this, and based upon consultations from the Kansas Department of Health's Office of Epidemiologic Service, the Oskaloosa School District superintendent elected to cancel classes for the remainder of the week (Thursday, October 24 and Friday, October 25).

On Wednesday, October 23, the nursing home facility reported that 9 wall-mounted sphygmomanometers had been drained, and that some mercury droplets were noticed in residents' rooms. Each sphygmomanometer contained an approximate 4.5 ounces (by weight) of mercury. The maximum total mercury taken from the nursing home by the student was then calculated as follows:

$$9 \text{ wall-mounted sphygmomanometers } (4.5 \text{ ounces} \times 9) = 40.5 \text{ ounces of mercury (by weight)}$$

On Thursday, October 24, EPA notified its Emergency Response Cleanup Services (ERCS) contractor to be on the site as soon as was practicable. On Friday, October 25, at 8:00 a.m., ERCS began the additional cleanup/collection of mercury at affected areas of the high school.

2. Physical Location

The Oskaloosa Mercury Site ("the Site") is located at the Oskaloosa High School, at the intersection of Liberty and Parks streets, in Oskaloosa, Kansas. Oskaloosa is located approximately 50 miles west of Kansas City, Kansas.

3. Site Characteristics

The high school is surrounded by a residential neighborhood. The enrollment of the high school is approximately 265.

4. Release or Threatened Release Into the Environment of a Hazardous Substance

Mercury is designated as a hazardous substance under the Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

5. NPL Status

The Site is not on, nor is it anticipated to be proposed for inclusion on, the National Priorities List (NPL).

6. Maps, Pictures and other Graphic Representations

Relevant support documentation will be placed in the Administrative Record for the Site.

B. OTHER ACTIONS TO DATE

Local health officials have coordinated the blood testing of 37 students. Results of this testing, received late on October 25, were negative.

The Jefferson County Emergency Management team were initial responders to the release. The Kansas Department of Health and Environment has been at the Site, and has since acted in an advisory capacity to the EPA. The Kansas Department of Health and Environment has been monitoring cleanup actions at the nursing home facility in Kansas City, Kansas.

Emergency response actions conducted to date are summarized in IV.A. below.

C. STATE AND LOCAL AUTHORITIES' ROLES

The Kansas Department of Health and Environment, Office of Epidemiological Service has assumed the advisory role of determining when and where the high school will be safe for re-entry. The Kansas Department of Health and Environment, Bureau of Environmental Remediation has taken on a general advisory role regarding cleanup operations.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. THREATS TO PUBLIC HEALTH OR WELFARE

Mercury spills present a serious health hazard. Mercury vapors resulting from spills can cause mercury poisoning among people who are exposed to the vapors at low levels. Mercury is also extremely toxic by both dermal contact and ingestion. Mercury poisoning can affect the skin, respiratory system, central nervous system, kidneys and the eyes. Mercury vapor exposure does not have adequate warning properties of its presence and thus exposure to it cannot be readily recognized until its concentration is greater than 20,000 micrograms per cubic meter (ug/cubic meter). In a letter dated October 25, 1996, from the Kansas Department of Health and Environment, Office of Epidemiological Services, to EPA and the Oskaloosa School District, Dr. Tim Monroe stated that "the level to be applied in the assessment of adequacy of the remediation effort will be 3.0 micrograms of mercury vapor per cubic meter."

The Site meets the criteria for a removal action as described in 40 CFR 300.415(b)(2) as follows:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants. The mercury vapor analyzer indicated mercury vapor concentrations as high as several hundred micrograms per cubic meter; typical readings in the affected areas of the high school were 40 to 100 ug/cubic meter. Laboratory results received to date have included the following:

Computer room.....	24 ug/cubic meter
Men's main hallway bathroom.....	92 " " "
Library.....	4 " " "

B. THREATS TO THE ENVIRONMENT

The mercury at the high school has apparently now been confined to the locations as described above. Information is still being gathered to determine if any mercury may have been spilled in areas outside the building. However, without EPA's immediate removal action a risk existed that mercury spilled on floors could well have been transported out of the school to the outside environment.

IV. ACTIONS TAKEN, PROPOSED ACTIONS AND ESTIMATED COSTS

A. ACTIONS TAKEN

On October 25, cleanup actions were performed in the affected classrooms, the bathroom, the library, and the women's locker room. Actions taken included utilization of a commercial mercury vacuum system on hard surfaces and carpets, hand pump removal of visible mercury droplets, and dismantling/disposal of certain objects which could not be easily cleaned. An estimated 10 ounces of mercury was removed on this date. Along with the estimated 16 ounces removed on October 23, the total mercury removed from the high school has been an estimated 26 ounces.

In addition, an estimated 12 ounces has been recovered from the nursing home facility. In addition to the 26 ounces recovered from the high school, this would bring the total recovered to 38 ounces of mercury by weight (out of a total 40.5 ounces potentially "available" from the 9 sphygmomanometers).

B. PROPOSED ACTIONS

1. Proposed Action Description

Future cleanup work may be necessary, pending data verification results. This may include removal/disposal of carpet and possibly additional vacuum operations. In addition, disposal of 2 to 3 55-gallon drums of mercury contaminated debris will need to occur.

2. Applicable or Relevant and Appropriate Requirements (ARARS)

Mercury can be a RCRA-listed hazardous waste and, as such, may be governed by the Land Ban Restrictions in 40 CFR Section 268.35. In addition, potential ARARS relating to pre-disposal handling and storage of drummed hazardous wastes can be found in 40 CFR Sections 264.171 thru 264.178.

Due to the emergency nature of the response, a request for state ARARS from the Kansas Department of Health and Environment was not made in writing. However, the state has been involved throughout the response and has, presumably, made appropriate recommendations at appropriate times during conference calls and on-site meetings.

3. Project Schedule

Cleanup operations commenced on October 25. Project completion will be dependent upon verification sample results.

VI. OUTSTANDING POLICY ISSUES

None.

VII. ENFORCEMENT

The urgent nature of the site due to the health risks posed by the mercury contamination justified the use of fund monies to conduct an emergency response action. Response costs will be tracked by location for possible cost recovery.

VIII. RECOMMENDATION

This action memorandum was developed in accordance with 42 U.S.C., Section 9601 et seq. This action is not inconsistent with the National Contingency Plan (NCP). An administrative record will be developed and placed in a public viewing location close to the site.

Conditions at the site continue to meet the NCP Section 300.415 (b)(2)(i) for a response action and I recommend your approval of both past and proposed actions. The total project ceiling will be \$94,000. Of this, an estimated \$50,000 comes from the regional removal allowance.

Approved:

Dennis Grams, P.E.
Regional Administrator

Date

ACTION MEMORANDUM

SUBJECT: Emergency Response Action at Oskaloosa Mercury Site, Oskaloosa,
Jefferson County, Kansas

FROM: David P. Williams, On-Scene Coordinator
EFLR

THRU: Michael J. Sanderson, Director
SUPR

TO: Dennis Grams, P.E.
Regional Administrator

CERCLIS ID#:	KSD0001589324
Site ID#:	XH
Category of Removal:	Emergency
Nationally Significant/ Precedent-Setting:	Yes (OSWER Directive 9360.3-12-- "Response Actions at Sites with Contamination Inside Buildings")

I. PURPOSE

The purpose of this memorandum is to document the rationale for initiating an emergency removal action (response) at the Oskaloosa Mercury Site, Park and Liberty, Jefferson County, Oskaloosa, Kansas; to describe actions performed thus far as part of the response; to describe future actions which may be required as part of this response; and to request funds for this response.

In accordance with OSWER Directive 9360.3-12, the Environmental Protection Agency's (EPA's) On-Scene Coordinator is generally required to obtain concurrence from EPA Headquarters to initiate a response inside a building. The Emergency Response and Removal Branch Chief coordinated Region VII's response action with the Office of Emergency and Remedial Response, Region V and VII Regional Response Center at EPA Headquarters. Concurrence was received to proceed with the response due to the urgency of the situation.

REVISED 11/4/96

SUPR:EFLR:WILLIAMS:DLR:10/29/96:7596:G:\USER\SHARE\EFLR\MEMO

EFLR EFLR EFLR CNSL SDDD SUPR RGAD SDDD

WILLIAMS BUCHHOLZ MOTELY KAHN KATHER SANDERSON GRAMS STAFFORD
CONCURRENCES REMAIN VALID.....

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Site Evaluation

An incident involving mercury at a local high school was reported to EPA Region VII at approximately 4:30 p.m. on Tuesday, October 22, 1996. The incident was reported by Kevin Klenklen of the Jefferson County Emergency Management team. At the time of the initial reporting, it was believed that an Oskaloosa High School student had broken a sphygmomanometer at his place of employment (a nursing home facility in Kansas City, Kansas) during the early morning hours on October 22, had collected spilled mercury from the device, and had taken the mercury to the high school later that day. The amount of mercury taken from the nursing home facility was initially unknown; however, school officials had identified several areas throughout the high school where visible mercury droplets were laying on floors, desks, books, etc., including classrooms, the school library, a bathroom, and the women's locker room. The school district elected to evacuate the school sometime during the day on October 22, and canceled classes the following day (Wednesday, October 23).

EPA Region VII responded to the scene (Oskaloosa High School) on October 23. Mercury droplets were observed in areas previously described. Approximately 16 ounces (by weight) of mercury were collected on this date from floors, desks, lockers, chalkboard trays, bathroom drains, and urinals, primarily through the use of hand suction pumps. Real-time measurements were taken throughout the high school with a mercury vapor analyzer, before and after mercury collection. The mercury vapor analyzer was being utilized strictly as a qualitative indicator of mercury, as its accuracy was unknown in certain concentration ranges felt to be of health concern at the high school. Measurements taken after mercury collection continued to indicate significant mercury vapors in the main hall men's bathroom, two classrooms, the library, the women's locker room, and the main school hallway. The measurements were corroborated by visual observation of mercury in these areas that was non-retrievable by means available at the time. Because of this, and based upon consultations from the Kansas Department of Health's Office of Epidemiologic Service, the Oskaloosa School District superintendent elected to cancel classes for the remainder of the week (Thursday, October 24 and Friday, October 25).

On Wednesday, October 23, the nursing home facility reported that 9 wall-mounted sphygmomanometers had been drained, and that some mercury droplets were noticed in residents' rooms. Each sphygmomanometer contained an approximate 4.5 ounces (by weight) of mercury. The maximum total mercury taken from the nursing home by the student was then calculated as follows:

$$9 \text{ wall-mounted sphygmomanometers } (4.5 \text{ ounces} \times 9) = 40.5 \text{ ounces of mercury (by weight)}$$

On Thursday, October 24, EPA notified its Emergency Response Cleanup Services (ERCS) contractor to be on the site as soon as was practicable. On Friday, October 25, at 8:00 a.m., ERCS began the additional cleanup/collection of mercury at affected areas of the high school.

2. Physical Location

The Oskaloosa Mercury Site ("the Site") is located at the Oskaloosa High School, at the intersection of Liberty and Parks streets, in Oskaloosa, Kansas. Oskaloosa is located approximately 50 miles west of Kansas City, Kansas.

3. Site Characteristics

The high school is surrounded by a residential neighborhood. The enrollment of the high school is approximately 265.

4. Release or Threatened Release Into the Environment of a Hazardous Substance

Mercury is designated as a hazardous substance under the Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

5. NPL Status

The Site is not on, nor is it anticipated to be proposed for inclusion on, the National Priorities List (NPL).

6. Maps, Pictures and other Graphic Representations

Relevant support documentation will be placed in the Administrative Record for the Site.

B. OTHER ACTIONS TO DATE

Local health officials have coordinated the blood testing of 37 students. Results of this testing, received late on October 25, were negative.

The Jefferson County Emergency Management team were initial responders to the release. The Kansas Department of Health and Environment has been at the Site, and has since acted in an advisory capacity to the EPA. The Kansas Department of Health and Environment has been monitoring cleanup actions at the nursing home facility in Kansas City, Kansas.

Emergency response actions conducted to date are summarized in IV.A. below.

C. STATE AND LOCAL AUTHORITIES' ROLES

The Kansas Department of Health and Environment, Office of Epidemiological Service has assumed the advisory role of determining when and where the high school will be safe for re-entry. The Kansas Department of Health and Environment, Bureau of Environmental Remediation has taken on a general advisory role regarding cleanup operations.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. THREATS TO PUBLIC HEALTH OR WELFARE

Mercury spills present a serious health hazard. Mercury vapors resulting from spills can cause mercury poisoning among people who are exposed to the vapors at low levels. Mercury is also extremely toxic by both dermal contact and ingestion. Mercury poisoning can affect the skin, respiratory system, central nervous system, kidneys and the eyes. Mercury vapor exposure does not have adequate warning properties of its presence and thus exposure to it cannot be readily recognized until its concentration is greater than 20,000 micrograms per cubic meter (ug/cubic meter). In a letter dated October 25, 1996, from the Kansas Department of Health and Environment, Office of Epidemiological Services, to EPA and the Oskaloosa School District, Dr. Tim Monroe stated that "the level to be applied in the assessment of adequacy of the remediation effort will be 3.0 micrograms of mercury vapor per cubic meter."

The Site meets the criteria for a removal action as described in 40 CFR 300.415(b)(2) as follows:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants. The mercury vapor analyzer indicated mercury vapor concentrations as high as several hundred micrograms per cubic meter; typical readings in the affected areas of the high school were 40 to 100 ug/cubic meter. Laboratory results received to date have included the following:

Computer room.....	24 ug/cubic meter
Men's main hallway bathroom.....	92 " " "
Library.....	4 " " "

B. THREATS TO THE ENVIRONMENT

The mercury at the high school has apparently now been confined to the locations as described above. Information is still being gathered to determine if any mercury may have been spilled in areas outside the building. However, without EPA's immediate removal action a risk existed that mercury spilled on floors could well have been transported out of the school to the outside environment.

IV. ACTIONS TAKEN, PROPOSED ACTIONS AND ESTIMATED COSTS

A. ACTIONS TAKEN

On October 25, cleanup actions were performed in the affected classrooms, the bathroom, the library, and the women's locker room. Actions taken included utilization of a commercial mercury vacuum system on hard surfaces and carpets, hand pump removal of visible mercury droplets, and dismantling/disposal of certain objects which could not be easily cleaned. An estimated 10 ounces of mercury was removed on this date. Along with the estimated 16 ounces removed on October 23, the total mercury removed from the high school has been an estimated 26 ounces.

In addition, an estimated 12 ounces has been recovered from the nursing home facility. In addition to the 26 ounces recovered from the high school, this would bring the total recovered to 38 ounces of mercury by weight (out of a total 40.5 ounces potentially "available" from the 9 sphygmomanometers).

B. PROPOSED ACTIONS

1. Proposed Action Description

Future cleanup work may be necessary, pending data verification results. This may include removal/disposal of carpet and possibly additional vacuum operations. In addition, disposal of 2 to 3 55-gallon drums of mercury contaminated debris will need to occur.

2. Applicable or Relevant and Appropriate Requirements (ARARS)

Mercury can be a RCRA-listed hazardous waste and, as such, may be governed by the Land Ban Restrictions in 40 CFR Section 268.35. In addition, potential ARARS relating to pre-disposal handling and storage of drummed hazardous wastes can be found in 40 CFR Sections 264.171 thru 264.178.

Due to the emergency nature of the response, a request for state ARARS from the Kansas Department of Health and Environment was not made in writing. However, the state has been involved throughout the response and has, presumably, made appropriate recommendations at appropriate times during conference calls and on-site meetings.

3. Project Schedule

Cleanup operations commenced on October 25. Project completion will be dependent upon verification sample results.

4. Action Levels

Action levels, as described in III.A. above, will be 3.0 micrograms mercury vapor per cubic meter of air.

5. Offsite Disposal

It is anticipated that the contaminated materials from the removal will be shipped to a mercury retort facility for disposal. If the wastes contain less than 260 parts per million mercury, they may be shipped to a hazardous waste landfill for treatment to below Land Ban standards and disposed.

B. ESTIMATED COSTS

Costs incurred to date include an estimated \$8,000 for ERCS, \$4,000 for START, and \$4,000 Intramural costs. These costs are included in the following summary.

Extramural Costs:

Regional Removal Allowance Costs	\$50,000
START Costs	10,000
Project Contingency (20%)	<u>12,000</u>
Extramural Subtotal	\$72,000

Intramural Costs

EPA Direct Costs	\$ 6,000
EPA Indirect Costs	<u>16,000</u>
Intramural Subtotal	\$22,000

TOTAL REMOVAL PROJECT CEILING	\$94,000
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V. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the actions had not been taken; or if possible additional actions are not taken, the High School might either continue to be canceled or the children could be subject to mercury exposure risk. In addition, the Oskaloosa Middle School and Elementary School are connected to the High School, and could have had some risk to exposure through ventilation pathways if a response had not been conducted.

VI. OUTSTANDING POLICY ISSUES

None.

VII. ENFORCEMENT

The urgent nature of the site due to the health risks posed by the mercury contamination justified the use of fund monies to conduct an emergency response action. Response costs will be tracked by location for possible cost recovery.

VIII. RECOMMENDATION

This action memorandum was developed in accordance with 42 U.S.C., Section 9601 et seq. This action is not inconsistent with the National Contingency Plan (NCP). An administrative record will be developed and placed in a public viewing location close to the site.

Conditions at the site continue to meet the NCP Section 300.415 (b)(2)(i) for a response action and I recommend your approval of both past and proposed actions. The total project ceiling will be \$94,000. Of this, an estimated \$50,000 comes from the regional removal allowance.

Approved:

Dennis Grams, P.E.
Regional Administrator

Date



ecology and environment, inc.

International Specialists in the Environment

Cloverleaf Building 3, 6405 Metcalf
Overland Park, Kansas 66202
Tel: (913) 432-9961, Fax: (913) 432-0670

MEMORANDUM

TO: Paul Doherty, EPA/START PO

FROM: Andrew Mazzeo, BRAL/STM *AM*
Buck Brooks, E & E/STM

THRU: Hieu Q. Vu, P.E., CHMM, E & E/START PM *[Signature]*

DATE: December 30, 1996

SUBJECT: On-Scene Monitoring: Saint Joseph Care Center, Kansas City, Kansas

CERCLIS I.D. No.: None
TDD: S07-9610-012
PAN: 0313JRZXX
EPA/OSC: Dave Williams

INCIDENT

The Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) received a request on October 22, 1996, from On-Scene Coordinator (OSC) Ken Rapplean of the U.S. Environmental Protection Agency (EPA) Region VII Enforcement/Fund Lead Removal (EFLR) program to respond to a mercury release at the Saint Joseph Care Center, Kansas City, Kansas on October 23, 1996. (Attachment 1: Site Location Map).

The extent of mercury contamination at the Saint Joseph facility was unknown at the time of the incident notification. However, according to the care center administration, the mercury originated from a broken sphygmomanometer (instrument used to measure blood pressure). The START was tasked to respond to the scene of the release under Technical Direction Document (TDD) S07-9610-012. Specifically, the START was requested to conduct air monitoring, and perform air sampling, as needed, at the facility. START member

(STM) Buck Brooks was assigned as project manager and Dave Williams was subsequently assigned as the EPA site manager.

RESPONSE ACTIVITIES

The initial request to respond to the incident was received by START at 1830 hours on October 22, 1996. At that time, the EPA requested that START be prepared to conduct air monitoring and air sampling activities on October 23, 1996. In preparation, the START prepared the mercury sampling equipment the evening of October 22.

STMs Brooks and Andrew Mazzeo arrived at the Saint Joseph Care Center, located at 759 Vermont, Kansas City, Kansas, on October 23, 1996 at 1020 hours. There the STMs met with Williams and Margaret Teague, Controller, St. Joseph Care Center. Teague explained that a teenage employee had apparently broken a sphygmomanometer unit in Room #415. The quantity released was unknown. The START used a Jerome 431-X Mercury Vapor Analyzer (MVA) to screen for mercury vapors throughout the facility.

Mercury vapor screening was initiated in the fourth floor south-center hallway outside room #415. The mercury vapor concentrations detected at this location were 0.075 and 0.099 milligrams per cubic meter of air (mg/m^3) (Attachment 2: Mercury Vapor Screening and Personal Sampling Pump Location Map). To verify that the MVA was functioning properly, background readings were taken in the third floor (lobby) and outside the building. Mercury vapor concentrations detected in those locations were $0.006 \text{ mg}/\text{m}^3$ and $0.000 \text{ mg}/\text{m}^3$ respectively. MVA screening was then conducted inside the doorway of patient room #415, which yielded a concentration of $0.154 \text{ mg}/\text{m}^3$. Further MVA screening indicated concentrations of $0.000 \text{ mg}/\text{m}^3$ in the fourth floor west hallway and the Director of Nursing Office ([located on the west hallway of the fourth floor] [Attachment 2: Mercury Vapor Screening and Personal Sampling Pump Location Map]).

Screening was also performed along the main (east to west) hallway on the fourth floor. A concentration of $0.007 \text{ mg}/\text{m}^3$ was detected at the juncture of the west and main hallways, and a reading of $0.016 \text{ mg}/\text{m}^3$ was detected outside the central stairwell (located on the main hallway). MVA screening was also conducted in the south-center hallway across the hallway from room #415, where a concentration of $0.110 \text{ mg}/\text{m}^3$ was detected. No visual evidence of a mercury release was noted by the START during response activities conducted outside Room #415, (site of release). The START subsequently activated two personal sampling pumps (PSPs) to provide quantitative analytical data of the indoor air mercury concentration. Air samples were collected on hopcalite sorbent tube through the use of a Gilian personal sampling pump calibrated to pump

550 cubic centimeters of air per minute (cc/min). The first PSP was placed just inside the doorway of room #415 (Sample OM001). The second PSP was positioned behind the door in the fourth floor Director of Nursing Office (Sample OM002), (Attachment 2: Mercury Vapor Screening and Personal Sampling Pump Location Map). Both PSPs were placed on the floor of the respective rooms and the timers were set for an 8-hour sampling period.

Mike Bower, Physical Plant Manager, St. Joseph Care Center, stated that the facility's inventory indicated only four mobile sphygmomanometers were present within the care facility. Teague had inspected all the sphygmomanometers, and all the mercury was intact. It was later determined that the mercury had been removed from a wall-mounted sphygmomanometer. Bower stated that the employee accused of causing the release had worked the 11:00 PM to 7:00 AM shift on both October 20 and 21, 1996.

Before departing the care center, two additional MVA screenings were performed by the START. One screening was conducted outside the elevator on the fifth floor, and the second was conducted in the third floor lobby. A concentration of 0.000 mg/m³ was detected at both locations. The START and Williams departed the site at 1100 hours on October 23, 1996.

STM Brooks returned to the care center at 0712 hours on October 24, 1996, and collected the PSP air samples OM001 and OM002. Teague accompanied Brooks during PSP collection and explained that the care center had determined a total of seven wall-mounted sphygmomanometers had been drained of their mercury. It was assumed that the same employee suspected of releasing the mercury in Room #415 was also responsible for draining the additional mercury. Brooks departed the site at 0730 and returned to the E & E office to prepare the samples for shipment to the laboratory.

STM Mazzeo returned to the site at 1625 hours on October 24 with the calibrated Jerome 411-X MVA. Earlier on October 24, the care center had evacuated the fourth floor except for the east hall in response to discovering that the seven wall-mounted sphygmomanometers had been drained of their mercury. The evacuation measure had been recommended by Tim Monroe, Kansas Department of Health and Environment's (KDHE) State Epidemiologist, over concerns that circulation of the mercury vapors was impacting the indoor air quality of the entire floor (including the east hallway, where patients had been relocated). MVA screening was conducted at three locations along the fourth floor east hallway, and four locations in the main hallway of the fourth floor. All of these screenings yielded mercury concentrations of 0.000 mg/m³, (Attachment 2: Mercury Vapor Screening and Personal Sampling Pump Location Map). MVA screening was also conducted outside room #415, where a concentration of 0.002 mg/m³ was indicated. No MVA screening was conducted in any of the additional six rooms where mercury releases occurred because the care center had already

taken measures to quantitatively assess the air quality in those rooms. In addition, they had secured HAZMAT Response Inc. to initiate cleanup activities on the morning of October 25, 1996. The START also performed MVA screening in the third floor lobby and a concentration of 0.000 mg/m³m was detected. Mazzeo departed the site at 1700 hours.

Air samples collected from the care center by Brooks (OM001 and OM002) were sent to the E & E Analytical Services Center, Lancaster, New York, for a 24-hour expedited turnaround. The air samples were analyzed for mercury by atomic absorption, in accordance with NIOSH method 6009.

On the evening of October 24, 1996, Williams contacted Mazzeo and explained that the Saint Joseph Care Center was addressing removal activities at the site and that no further activities were planned for the START at that site.

The care center contracted HAZMAT Response, Inc. to perform the mercury cleanup operations in the seven rooms where releases had occurred, and Occutec, Inc. to perform confirmation air sampling at the site.

ANALYTICAL RESULTS

The analytical results from samples OM001 and OM002 were received on October, 25, 1996. Samples OM001 and OM002 yielded mercury concentrations of 0.02171 mg/m³ and 0.00083 mg/m³ respectively (Attachment 3: Analytical Results, Field Sheets and Chain-of-Custody Record). Sample results were forwarded to Monroe who was working in conjunction with the Agency for Toxic Substances and Disease Registry (ATSDR) to determine an appropriate indoor action level for the mercury cleanup activities at the site. Based on the fact that the care center is a residential facility, it was initially proposed that the care center comply with the 0.0003 mg/m³ indoor action level established by the Agency for Toxic Substances and Disease Registry (ATSDR) at a previous residential site (Truman Mercury site, St. Joseph, Missouri).

CONCLUSIONS AND RECOMMENDATIONS

The START responded to a mercury release at the Saint Joseph Care Center, Kansas City, Kansas, on October 23, 1996. Air monitoring was performed using an MVA. MVA screening was conducted in room #415, (the site of the original release), the hallway adjacent to room #415, and throughout the main and west hallways on the fourth floor. MVA screening was also performed on the third and fifth floors. The

MVA results for these activities indicated increasingly higher mercury concentrations nearer the room where the release occurred. The care center officials initially stated that only one sphygmomanometer had been broken, however, it was later confirmed that seven of the wall-mounted instruments had been drained of their mercury. Furthermore, the a care facility administration ascertained that each sphygmomanometer contained approximately 2 teaspoons of mercury, and a total of 14 teaspoons had been released. Pursuant to this discovery, the care center evacuated all patients and employees from the fourth floor, except for those on the east wing.

The START returned to the site on October 24, 1996, and conducted further MVA screening on the fourth floor. Mercury concentrations ranged from 0.000 mg/m³ in the east and main hallways, to 0.002 mg/m³ in the south center hallway adjacent to room #415. The START conducted no MVA screening in any of the additional rooms where mercury releases occurred, because the care center had acquired a contractor to address the further assessment and cleanup of the mercury release. The EPA was notified that the care center environmental consultant and cleanup contractor would be working in conjunction with KDHE on health-risk issues related to the removal. The EPA subsequently explained that no further activities involving the START were planned for the site.

Pre-Remedial Concerns

The pre-remedial issues at this site are not applicable because the mercury release was limited to the confines of the Saint Joseph Care Center facility. Therefore, all pre-remedial pathway concerns, (i.e. groundwater, surface water, soil and air) were not available for impact by this release.

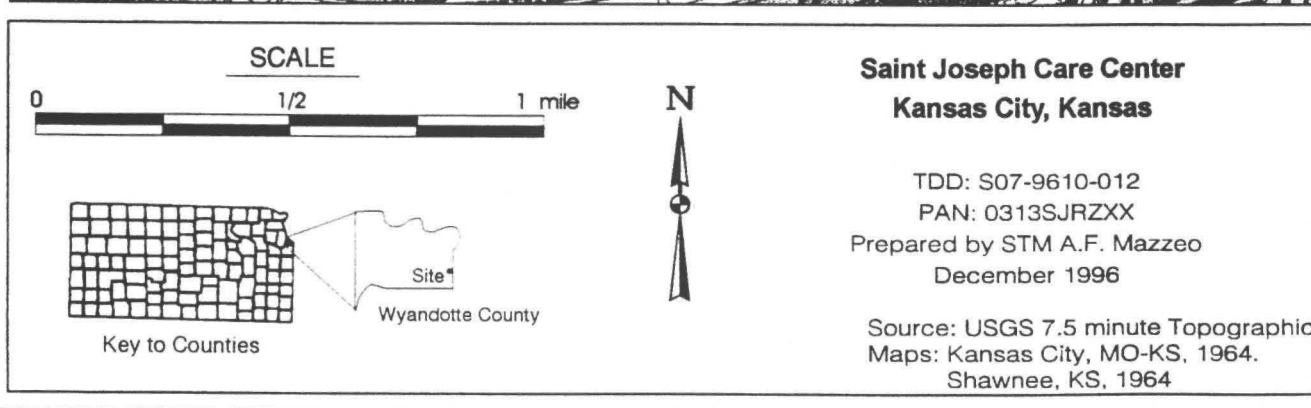
Removal Considerations

According to the EPA, the Saint Joseph Care Center administration was addressing all issues pertaining to removal considerations at the time of the cleanup. The care center contracted HAZMAT Response, Inc., to perform the mercury cleanup operations in the seven rooms where releases had occurred, and Occutec, Inc. to perform confirmation air sampling at the facility. The mercury cleanup action levels specified by KDHE's Monroe were reportedly attained in each of the mercury release locations.

ATTACHMENTS

1. Figure 1: Site Location Map
2. Mercury Vapor Screening/Personal Sampling Pump Location Maps
 - Figure 2-1: Sample Location Map—3rd Floor
 - Figure 2-2: Sample Location Map—4th Floor
 - Figure 2-3: Sample Location Map—5th Floor
3. Analytical Results, Field Sheets, and Chain-of-Custody Record

ATTACHMENT 1
SITE LOCATION MAP

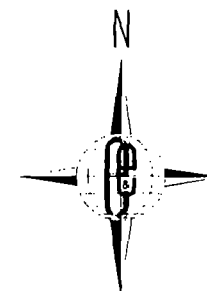


ATTACHMENT 2


MERCURY VAPOR SCREENING AND PERSONAL SAMPLING PUMP LOCATION MAP

**Saint Joseph Care Center
Kansas City, KS**

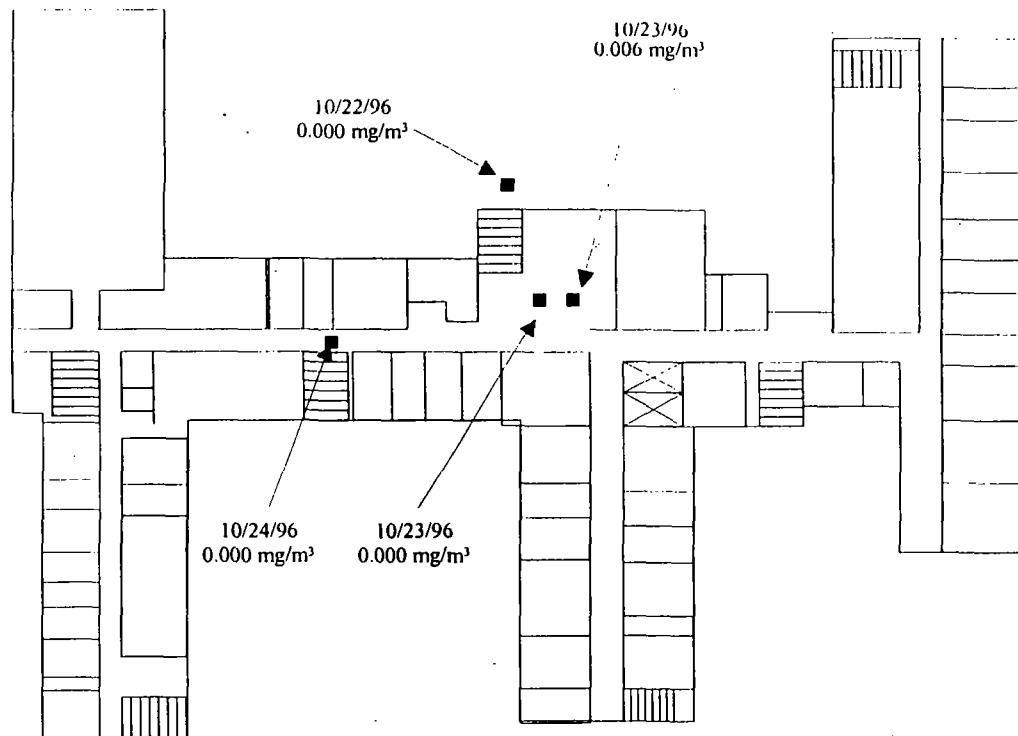
Ecology & Environment Inc./START
TDD# S07-9610-012
PAN# 0313JRZXX
Prepared by STM Mark Mayo
December 1996



NOT TO SCALE

 Ecology and Environment, inc.
Overland Park, Kansas

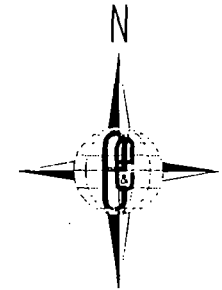
3rd FLOOR



TEST LOCATION

- - MVA Screening Location
- - PSP Sample Location

Ecology & Environment Inc./START
TDD# S07-9610-012
PAN# 0313JRZXX
Prepared by STM Mark Mayo
December 1996



NOT TO SCALE

E Ecology and Environment, inc.
Overland Park, Kansas

Source: Fire Evacuation Maps

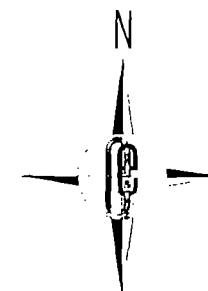
The floor plan shows the layout of the 4th floor with the following sampling data:

- West Hallway:**
 - 10/24/96: 0.000 mg/m³ (near top left)
 - 10/23/96: 0.000 mg/m³ (near bottom left)
- Main Hallway:**
 - 10/23/96: 0.007 mg/m³ (top left)
 - 10/24/96: 0.000 mg/m³ (top center)
 - 10/24/96: 0.000 mg/m³ (top right)
 - 10/24/96: 0.000 mg/m³ (far right)
 - 10/24/96: 0.000 mg/m³ (bottom right)
- South-Center Hallway:**
 - 10/23/96: 0.016 mg/m³ (top left)
 - 10/24/96: 0.002 mg/m³ (top center)
 - 10/23/96: 0.110 mg/m³ (top right)
 - 10/23/96: 0.00083 mg/m³ (bottom left)
 - 10/23/96: 0.000 mg/m³ (bottom center)
- Room 415:**
 - 10/23/96: 0.075 mg/m³ (top left)
 - 10/23/96: 0.099 mg/m³ (top right)
 - 10/23/96: 0.154 mg/m³ (bottom right)
 - OM001: 0.02171 mg/m³ (bottom center)
- East Hallway:**
 - 10/24/96: 0.000 mg/m³ (top right)
 - 10/24/96: 0.000 mg/m³ (far right)


 - MVA Screening Location
 - PSP Sample Location

**Saint Joseph Care Center
Kansas City, KS**

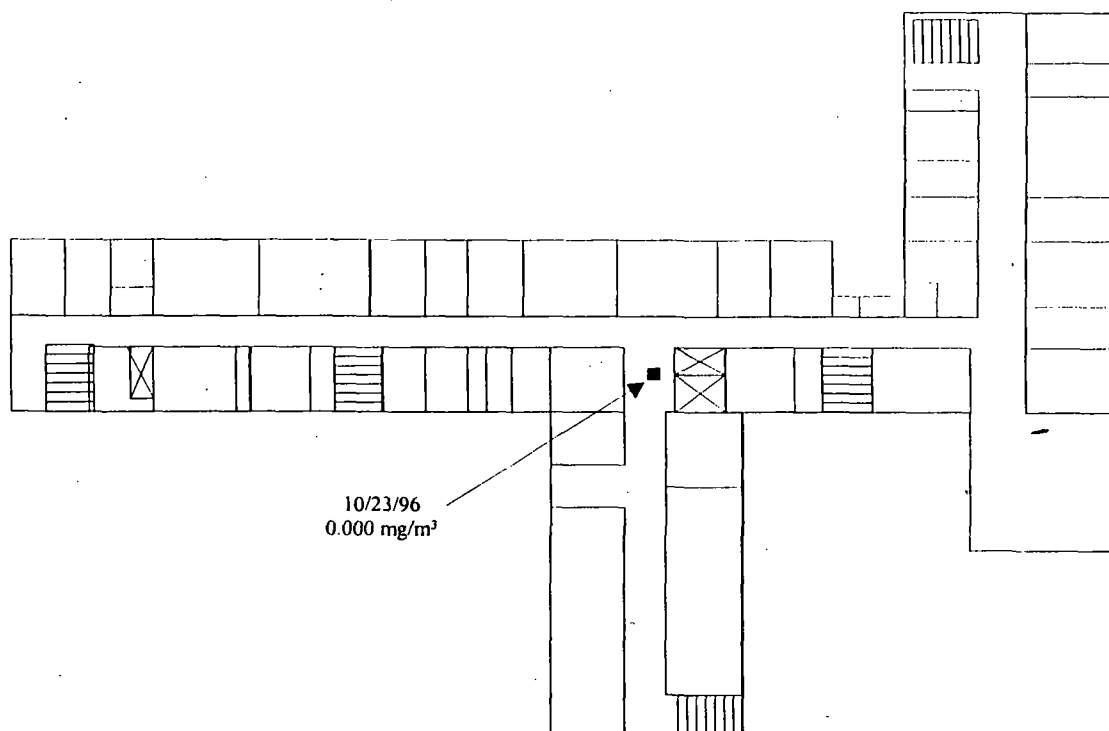
Ecology & Environment Inc./START
TDD# S07-9610-012
PAN# 0313SJRZXX
Prepared by STM Mark Mayo
December 1996



NOT TO SCALE

 Ecology and Environment, inc.
Overland Park, Kansas

5th FLOOR



10/23/96
0.000 mg/m³

TEST LOCATION

■ - MVA Screening Location

○ - PSP Sample Location